

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An optical scanning module comprising:

a light-emission source ~~emitting~~ configured to emit a light beam;

a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft; and

a movable mirror driving part that is configured to cause ~~causes~~ said movable mirror to oscillate in first and second opposite directions,

wherein a frequency of pixel information supplied to said light-emission source varies in accordance with a primary scanning position of each ~~of pixels~~ pixel.

Claim 2 (Currently Amended): The optical scanning module as claimed in claim 1, further comprising a detection part ~~that detects~~ configured to detect a displacement of said movable mirror,

wherein a frequency modulation section is set to start after a given period of time passes since a detection signal is obtained from said detection part; and a frequency causing said light-emission source to emit light is varied within the frequency modulation section.

Claim 3 (Original): The optical scanning module as claimed in claim 2, wherein a start timing of the frequency modulation section is varied based on the detection signal obtained from said detection part.

Claim 4 (Original): The optical scanning module as claimed in claim 2, wherein said movable mirror driving part varies an amplitude of said movable mirror so that a predetermined detection signal value may be obtained in said detection part.

Claim 5 (Original): The optical scanning module as claimed in claim 4, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 6 (Currently Amended): The optical scanning module as claimed in claim 4, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the predetermined detection signal value is obtained in said detection part ~~in starting said movable mirror~~.

Claim 7 (Original): The optical scanning module as claimed in claim 4, wherein said movable mirror driving part stops driving said movable mirror if the predetermined detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 8 (Currently Amended): The optical scanning module as claimed in claim 1, further comprising:

a detection part ~~that detects~~ configured to detect a displacement of said movable mirror; and

a variable output setting part that ~~[[sets]]~~ is configured to set a frequency variation section so that the frequency variation section starts after a given period of time passes since a detection signal is obtained from said detection part, and that is configured to vary ~~[[varies]]~~ a light-emission output of said light-emission source in accordance with the primary scanning position.

Claim 9 (Original): The optical scanning module as claimed in claim 1, wherein said movable mirror driving part reduces or stops a rotational oscillation force provided to said movable mirror at least in a period other than an image writing period.

Claim 10 (Original): The optical scanning module as claimed in claim 9, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 11 (Currently Amended): The optical scanning module as claimed in claim 9, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the predetermined detection signal value is obtained in said detection part ~~in starting said movable mirror~~.

Claim 12 (Original): The optical scanning module as claimed in claim 9, wherein said movable mirror driving part stops driving said movable mirror if the predetermined detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 13 (Currently Amended): An optical scanning module comprising:  
a light-emission source ~~emitting~~ configured to emit a light beam;  
a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft; and  
a movable mirror driving part that ~~causes~~ that is configured to cause said movable mirror to oscillate in first and second opposite directions,

wherein a frequency causing said light-emission source to emit light based on pixel information varies in accordance with a primary scanning position.

Claim 14 (Currently Amended): The optical scanning module as claimed in claim 13, further comprising a detection part ~~that detects~~ configured to detect a displacement of said movable mirror,

wherein a frequency modulation section is set to start after a given period of time passes since a detection signal is obtained from said detection part; and the frequency causing said light-emission source to emit light is varied within the frequency modulation section.

Claim 15 (Original): The optical scanning module as claimed in claim 14, wherein a start timing of the frequency modulation section is varied based on the detection signal obtained from said detection part.

Claim 16 (Original): The optical scanning module as claimed in claim 14, wherein said movable mirror driving part varies an amplitude of said movable mirror so that a predetermined detection signal value may be obtained in said detection part.

Claim 17 (Original): The optical scanning module as claimed in claim 16, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 18 (Currently Amended): The optical scanning module as claimed in claim 16, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the

predetermined detection signal value is obtained in said detection part ~~in starting said~~  
~~movable mirror.~~

Claim 19 (Original): The optical scanning module as claimed in claim 16, wherein said movable mirror driving part stops driving said movable mirror if the predetermined detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 20 (Currently Amended): The optical scanning module as claimed in claim 13, further comprising:

a detection part that ~~detects~~ is configured to detect a displacement of said movable mirror; and

a variable output setting part that ~~[[sets]]~~ is configured to set a frequency variation section so that the frequency variation section starts after a given period of time passes since a detection signal is obtained from said detection part, and is configured to vary ~~[[varies]]~~ a light-emission output of said light-emission source in accordance with the primary scanning position.

Claim 21 (Original): The optical scanning module as claimed in claim 13, wherein said movable mirror driving part reduces or stops a rotational oscillation force provided to said movable mirror at least in a period other than an image writing period.

Claim 22 (Original): The optical scanning module as claimed in claim 21, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror

until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 23 (Currently Amended): The optical scanning module as claimed in claim 21, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the predetermined detection signal value is obtained in said detection part ~~in starting said movable mirror~~.

Claim 24 (Original): The optical scanning module as claimed in claim 21, wherein said movable mirror driving part stops driving said movable mirror if the predetermined detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 25 (Currently Amended): An optical scanning module comprising:  
a light-emission source ~~emitting~~ configured to emit a light beam;  
a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft;  
a movable mirror driving part that is configured to cause ~~causes~~ said movable mirror to oscillate in first and second opposite directions; and  
a variable frequency setting part varying, in accordance with an amplitude of said movable mirror, a frequency causing said light-emission source to emit light based on pixel information.

Claim 26 (Currently Amended): The optical scanning module as claimed in claim 25, further comprising a detection part ~~that detects~~ configured to detect a displacement of said movable mirror,

wherein a frequency modulation section is set to start after a given period of time passes since a detection signal is obtained from said detection part; and the frequency causing said light-emission source to emit light is varied within the frequency modulation section.

Claim 27 (Original): The optical scanning module as claimed in claim 26, wherein a start timing of the frequency modulation section is varied based on the detection signal obtained from said detection part.

Claim 28 (Original): The optical scanning module as claimed in claim 26, wherein said movable mirror driving part varies the amplitude of said movable mirror so that a predetermined detection signal value may be obtained in said detection part.

Claim 29 (Original): The optical scanning module as claimed in claim 28, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 30 (Currently Amended): The optical scanning module as claimed in claim 28, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the predetermined detection signal value is obtained in said detection part ~~in starting said movable mirror.~~

Claim 31 (Original): The optical scanning module as claimed in claim 28, wherein said movable mirror driving part stops driving said movable mirror if the predetermined detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 32 (Currently Amended): The optical scanning module as claimed in claim 25, further comprising:

a detection part that is configured to detect [[detects]] a displacement of said movable mirror; and

a variable output setting part that [[sets]] is configured to set a frequency variation section so that the frequency variation section starts after a given period of time passes since a detection signal is obtained from said detection part, and that is configured to vary ~~varies~~ a light-emission output of said light-emission source in accordance with a primary scanning position.

Claim 33 (Original): The optical scanning module as claimed in claim 25, wherein said movable mirror driving part reduces or stops a rotational oscillation force provided to said movable mirror at least in a period other than an image writing period.

Claim 34 (Original): The optical scanning module as claimed in claim 33, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.



Claim 35 (Currently Amended): The optical scanning module as claimed in claim 33, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the predetermined detection signal value is obtained in said detection part ~~in starting said~~ ~~movable mirror~~.

Claim 36 (Original): The optical scanning module as claimed in claim 33, wherein said movable mirror driving part stops driving said movable mirror if the predetermined detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 37 (Currently Amended): An optical scanning module comprising:  
a light-emission source ~~emitting~~ configured to emit a light beam;  
a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft; and  
a movable mirror driving part that is configured to cause ~~causes~~ said movable mirror to oscillate in first and second opposite directions,  
wherein a light emission period forming one pixel on a scanned surface is varied with respect to a primary scanning direction to be minimized in a vicinity of a center of an image so that a light-emission interval between each of pixels forming pixel information is minimized in the vicinity of the center of the image.

Claim 38 (Currently Amended): The optical scanning module as claimed in claim 37, further comprising a detection part ~~that detects~~ configured to detect a displacement of said movable mirror,

wherein a frequency modulation section is set to start after a given period of time passes since a detection signal is obtained from said detection part; and a frequency causing said light-emission source to emit light is varied within the frequency modulation section.

Claim 39 (Original): The optical scanning module as claimed in claim 38, wherein a start timing of the frequency modulation section is varied based on the detection signal obtained from said detection part.

Claim 40 (Currently Amended): The optical scanning module as claimed in claim [[1]] 38, wherein said movable mirror driving part varies an amplitude of said movable mirror so that a predetermined detection signal value may be obtained in said detection part.

Claim 41 (Original): The optical scanning module as claimed in claim 40, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 42 (Currently Amended): The optical scanning module as claimed in claim 40, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the predetermined detection signal value is obtained in said detection part ~~in starting said movable mirror~~.

Claim 43 (Original): The optical scanning module as claimed in claim 40, wherein said movable mirror driving part stops driving said movable mirror if the predetermined

detection signal value is prevented from being obtained in said detection part within a given time limit.

Claim 44 (Currently Amended): The optical scanning module as claimed in claim 37, further comprising:

a detection part that is configured to detect detects a displacement of said movable mirror; and

a variable output setting part that ~~[[sets]]~~ is configured to set a frequency variation section so that the frequency variation section starts after a given period of time passes since a detection signal is obtained from said detection part, and ~~varies~~ that is configured to vary a light-emission output of said light-emission source in accordance with a primary scanning position.

Claim 45 (Original): The optical scanning module as claimed in claim 37, wherein said movable mirror driving part reduces or stops a rotational oscillation force provided to said movable mirror at least in a period other than an image writing period.

Claim 46 (Original): The optical scanning module as claimed in claim 45, wherein said movable mirror driving part gradually increases the amplitude of said movable mirror until the predetermined detection signal value is obtained in said detection part in starting said movable mirror.

Claim 47 (Currently Amended): The optical scanning module as claimed in claim 45, wherein said light-emission source ~~inhibits~~ is inhibited from starting image writing before the

predetermined detection signal value is obtained in said detection part ~~in starting said~~  
~~movable mirror.~~

Claim 48 (Original): The optical scanning module as claimed in claim 45, wherein  
said movable mirror driving part stops driving said movable mirror if the predetermined  
detection signal value is prevented from being obtained in said detection part within a given  
time limit.

Claim 49 (Currently Amended): An optical scanning device comprising:  
a plurality of optical scanning modules arranged so that primary scanning directions  
thereof coincide with each other, the optical scanning modules each comprising:  
a light-emission source ~~emitting~~ configured to emit a light beam;  
a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable  
mirror being swingably supported by a rotary shaft; and  
a movable mirror driving part that is configured to cause ~~causes~~ said movable  
mirror to oscillate in first and second opposite directions,  
wherein a frequency of pixel information supplied to said light-emission  
source varies in accordance with a primary scanning position of each ~~of pixels~~ pixel.

Claim 50 (Currently Amended): The optical scanning device as claimed in claim 49,  
wherein said light-emission source is modulated in accordance with image data;  
~~said movable mirror is supported by torsion bars provided to a support substrate so as~~  
~~to be oscillatable about the torsion bars as a rotary shaft~~; and  
said movable mirror driving part causes said movable mirror to oscillate by  
periodically generating attraction or a repulsive force between said support substrate and said

movable mirror by switching voltages applied to said movable mirror driving part, said movable mirror driving part being provided on both of end parts of said movable mirror, the end parts being positioned on opposite sides of the rotary shaft ~~each of the torsion bars~~.

Claim 51 (Original): The optical scanning device as claimed in claim 50, wherein the light beam emitted from said light-emission source of each of said optical scanning modules is caused to scan a region in the primary scanning direction by said movable mirror so that image recording is performed by connecting the regions scanned by the light beams of said optical scanning modules.

Claim 52 (Currently Amended): The optical scanning device as claimed in claim 51, further comprising a variable pixel frequency setting part that ~~varies~~ is configured to vary the pixel frequency modulating said light-emission source in accordance with an amount of oscillation of said movable mirror.

Claim 53 (Currently Amended): The optical scanning device as claimed in claim 52, further comprising beam detection parts each ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection parts being provided outside the scanned region at positions corresponding to scanning starting and termination ends of each of the optical scanning modules, respectively,

wherein said variable pixel frequency setting part varies the pixel frequency based on a scanning period between detections of the light beam by the beam detection parts.

Claim 54 (Original): The optical scanning device as claimed in claim 52, wherein said variable pixel frequency setting part varies the pixel frequency in a plurality of steps during one scan.

Claim 55 (Original): The optical scanning device as claimed in claim 52, further comprising a variable driving current setting part that varies, in accordance with the pixel frequency, a driving current supplied to said light-emission source so as to vary an amount of light emitted therefrom.

Claim 56 (Currently Amended): The optical scanning device as claimed in claim 51, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the scanned region at a position corresponding to a scanning starting end of each of the optical scanning modules,

wherein ~~[[,]] a reference signal for starting image writing is switched between one of~~  
a plurality of detection signals output from the beam detection part ~~based on~~ is selected as a  
reference signal for starting image writing in accordance with an on-off timing of application  
~~of the driving voltages~~ applied to said movable mirror driving part.

Claim 57 (Currently Amended): The optical scanning device as claimed in claim 51, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the scanned region of each of the optical scanning modules,

wherein the light beam is turned within a region detectable by said beam detection part so as to perform scanning in the first and second opposite directions.

Claim 58 (Original): The optical scanning device as claimed in claim 51, wherein the optical scanning modules are arranged so that the scanned regions of each adjacent two of the optical scanning modules are apart from each other by one scanning pitch in a secondary scanning direction; and

timing phases of the driving voltages applied to the movable mirror driving parts of the optical scanning modules coincide substantially.

Claim 59 (Currently Amended): The optical scanning device as claimed in claim 51, further comprising a pair of buffer parts configured to alternate ~~alternating~~ in temporarily storing the image data so that each of the buffer parts is configured to store ~~stores~~ image data for every other scanning line,

wherein the light beam emitted from said light-emission source is deflected by said movable mirror so as to scan the scanned region in the first and second opposite directions; and the image data is read out alternately from the paired buffer parts in first and second respective orders reverse to each other based on timing of the driving voltages applied to said movable mirror driving part.

Claim 60 (Original): An optical scanning device comprising:

a plurality of optical scanning modules arranged so that primary scanning directions thereof coincide with each other, the optical scanning modules each comprising:

a light-emission source ~~emitting~~ configured to emit a light beam;

a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft; and

a movable mirror driving part that is configured to cause ~~causes~~ said movable mirror to oscillate in first and second opposite directions,

wherein a frequency causing said light-emission source to emit light based on pixel information varies in accordance with a primary scanning position.

Claim 61 (Currently Amended): The optical scanning device as claimed in claim 60, wherein said light-emission source is modulated in accordance with image data;

~~said movable mirror is supported by torsion bars provided to a support substrate so as to be oscillatable about the torsion bars as a rotary shaft; and~~

said movable mirror driving part causes said movable mirror to oscillate by periodically generating attraction or a repulsive force between said support substrate and said movable mirror by switching voltages applied to said movable mirror driving part, said movable mirror driving part being provided on both of end parts of said movable mirror, the end parts being positioned on opposite sides of each of the rotary shaft ~~torsion bars~~.

Claim 62 (Original): The optical scanning device as claimed in claim 61, wherein the light beam emitted from said light-emission source of each of said optical scanning modules is caused to scan a region in the primary scanning direction by said movable mirror so that image recording is performed by connecting the regions scanned by the light beams of said optical scanning modules.

Claim 63 (Currently Amended): The optical scanning device as claimed in claim 62, further comprising a variable pixel frequency setting part that ~~varies~~ is configured to vary the pixel frequency modulating said light-emission source in accordance with an amount of oscillation of said movable mirror.



Claim 64 (Currently Amended): The optical scanning device as claimed in claim 63, further comprising beam detection parts each ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection parts being provided outside the scanned region at positions corresponding to scanning starting and termination ends of each of the optical scanning modules, respectively,

wherein said variable pixel frequency setting part varies the pixel frequency based on a scanning period between detections of the light beam by the beam detection parts.

Claim 65 (Original): The optical scanning device as claimed in claim 63, wherein said variable pixel frequency setting part varies the pixel frequency in a plurality of steps during one scan.

Claim 66 (Original): The optical scanning device as claimed in claim 63, further comprising a variable driving current setting part that varies, in accordance with the pixel frequency, a driving current supplied to said light-emission source so as to vary an amount of light emitted therefrom.

Claim 67 (Currently Amended): The optical scanning device as claimed in claim 62, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the scanned region at a position corresponding to a scanning starting end of each of the optical scanning modules,

wherein ~~[[,]] a reference signal for starting image writing is switched between one of~~ a plurality of detection signals output from the beam detection part ~~based on~~ is selected as a

reference signal for starting image writing in accordance with an on-off timing of application  
of the driving voltages applied to said movable mirror driving part.

Claim 68 (Currently Amended): The optical scanning device as claimed in claim 62, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the scanned region of each of the optical scanning modules,

wherein the light beam is turned within a region detectable by said beam detection part so as to perform scanning in the first and second opposite directions.

Claim 69 (Original): The optical scanning device as claimed in claim 62, wherein the optical scanning modules are arranged so that the scanned regions of each adjacent two of the optical scanning modules are apart from each other by one scanning pitch in a secondary scanning direction; and timing phases of the driving voltages applied to the movable mirror driving parts of the optical scanning modules coincide substantially.

Claim 70 (Currently Amended): The optical scanning device as claimed in claim 62, further comprising a pair of buffer parts configured to alternate ~~alternating~~ in temporarily storing the image data so that each of the buffer parts is configured to store ~~stores~~ image data for every other scanning line,

wherein the light beam emitted from said light-emission source is deflected by said movable mirror so as to scan the scanned region in the first and second opposite directions; and the image data is read out alternately from the paired buffer parts in first and second respective orders reverse to each other based on timing of the driving voltages applied to said movable mirror driving part.

Claim 71 (Currently Amended): An optical scanning device comprising:  
a plurality of optical scanning modules arranged so that primary scanning directions thereof coincide with each other, the optical scanning modules each comprising:  
a light-emission source ~~emitting~~ configured to emit a light beam;  
a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft; [[and]]  
a movable mirror driving part that is configured to cause ~~causes~~ said movable mirror to oscillate in first and second opposite directions; and  
a variable pixel frequency setting part varying, in accordance with an amplitude of said movable mirror, a frequency causing said light-emission source to emit light based on pixel information.

Claim 72 (Currently Amended): The optical scanning device as claimed in claim 71, wherein said light-emission source is modulated in accordance with image data;  
~~said movable mirror is supported by torsion bars provided to a support substrate so as to be oscillatable about the torsion bars as a rotary shaft; and~~  
said movable mirror driving part causes said movable mirror to oscillate by periodically generating attraction or a repulsive force between said support substrate and said movable mirror by switching voltages applied to said movable mirror driving part, said movable mirror driving part being provided on both of end parts of said movable mirror, the end parts being positioned on opposite sides of each of the rotary shaft ~~torsion bars~~.

Claim 73 (Original): The optical scanning device as claimed in claim 72, wherein the light beam emitted from said light-emission source of each of said optical scanning modules

is caused to scan a region in the primary scanning direction by said movable mirror so that image recording is performed by connecting the regions scanned by the light beams of said scanning modules.

Claim 74 (Currently Amended): The optical scanning device as claimed in claim 73, further comprising beam detection parts each ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection parts being provided outside the scanned region at positions corresponding to scanning starting and termination ends of each of the optical scanning modules, respectively,

wherein said variable pixel frequency setting part varies the pixel frequency based on a scanning period between detections of the light beam by the beam detection parts.

Claim 75 (Original): The optical scanning device as claimed in claim 73, wherein said variable pixel frequency setting part varies the pixel frequency in a plurality of steps during one scan.

Claim 76 (Original): The optical scanning device as claimed in claim 73, further comprising a variable driving current setting part that varies, in accordance with the pixel frequency, a driving current supplied to said light-emission source so as to vary an amount of light emitted therefrom.

Claim 77 (Currently Amended): The optical scanning device as claimed in claim 73, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the

scanned region at a position corresponding to a scanning starting end of each of the optical scanning modules,

wherein ~~[[,]] a reference signal for starting image writing is switched between one of~~  
a plurality of detection signals output from the beam detection part ~~based on~~ is selected as a  
reference signal for starting image writing in accordance with an on-off timing of application  
~~of the driving voltages applied~~ to said movable mirror driving part.

Claim 78 (Currently Amended): The optical scanning device as claimed in claim 73,  
further comprising a beam detection part ~~detecting~~ configured to detect a position of the light  
beam deflected by said movable mirror, the beam detection part being provided outside the  
scanned region of each of the optical scanning modules,

wherein the light beam is turned within a region detectable by said beam detection  
part so as to perform scanning in the first and second opposite directions.

Claim 79 (Original): The optical scanning device as claimed in claim 73, wherein the  
optical scanning modules are arranged so that the scanned regions of each adjacent two of the  
optical scanning modules are apart from each other by one scanning pitch in a secondary  
scanning direction; and timing phases of the driving voltages applied to the movable mirror  
driving parts of the optical scanning modules coincide substantially.

Claim 80 (Currently Amended): The optical scanning device as claimed in claim 73,  
further comprising a pair of buffer parts configured to alternate ~~alternating~~ in temporarily  
storing the image data so that each of the buffer parts is configured to store ~~stores~~ image data  
for every other scanning line,

wherein the light beam emitted from said light-emission source is deflected by said movable mirror so as to scan the scanned region in the first and second opposite directions; and the image data is read out alternately from the paired buffer parts in first and second respective orders reverse to each other based on timing of the driving voltages applied to said movable mirror driving part.

Claim 81 (Currently Amended): An optical scanning device comprising:

a plurality of optical scanning modules arranged so that primary scanning directions thereof coincide with each other, the optical scanning modules each comprising:

a light-emission source ~~emitting~~ configured to emit a light beam;

a movable mirror ~~reflecting~~ configured to reflect the light beam, the movable mirror being swingably supported by a rotary shaft; and

a movable mirror driving part that is configured to cause ~~causes~~ said movable mirror to oscillate in first and second opposite directions,

wherein a light emission period forming one pixel on a scanned surface is varied with respect to a primary scanning direction to be minimized in a vicinity of a center of an image so that a light-emission interval between each of pixels forming pixel information is minimized in the vicinity of the center of the image.

Claim 82 (Currently Amended): The optical scanning device as claimed in claim 81, wherein said light-emission source is modulated in accordance with image data;

~~said movable mirror is supported by torsion bars provided to a support substrate so as to be oscillatable about the torsion bars as a rotary shaft~~; and

said movable mirror driving part causes said movable mirror to oscillate by periodically generating attraction or a repulsive force between said support substrate and said

movable mirror by switching voltages applied to said movable mirror driving part, said movable mirror driving part being provided on both of end parts of said movable mirror, the end parts being positioned on opposite sides of each of the rotary shaft ~~torsion bars~~.

Claim 83 (Original): The optical scanning device as claimed in claim 82, wherein the light beam emitted from said light-emission source of each of said optical scanning modules is caused to scan a region in the primary scanning direction by said movable mirror so that image recording is performed by connecting the regions scanned by the light beams of said optical scanning modules.

Claim 84 (Currently Amended): The optical scanning device as claimed in claim 83, further comprising a variable pixel frequency setting part that ~~varies~~ is configured to vary the pixel frequency modulating said light-emission source in accordance with an amount of oscillation of said movable mirror.

Claim 85 (Currently Amended): The optical scanning device as claimed in claim 84, further comprising beam detection parts each ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection parts being provided outside the scanned region at positions corresponding to scanning starting and termination ends of each of the optical scanning modules, respectively,

wherein said variable pixel frequency setting part varies the pixel frequency based on a scanning period between detections of the light beam by the beam detection parts.

Claim 86 (Original): The optical scanning device as claimed in claim 84, wherein said variable pixel frequency setting part varies the pixel frequency in a plurality of steps during one scan.

Claim 87 (Original): The optical scanning device as claimed in claim 84, further comprising a variable driving current setting part that varies, in accordance with the pixel frequency, a driving current supplied to said light-emission source so as to vary an amount of light emitted therefrom.

Claim 88 (Currently Amended): The optical scanning device as claimed in claim 83, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the scanned region at a position corresponding to a scanning starting end of each of the optical scanning modules,

wherein ~~[[,]] a reference signal for starting image writing is switched between one of~~  
a plurality of detection signals output from the beam detection part ~~based on~~ is selected as a  
reference signal for starting image writing in accordance with an on-off timing of application  
of the driving voltages applied to said movable mirror driving part.

Claim 89 (Currently Amended): The optical scanning device as claimed in claim 83, further comprising a beam detection part ~~detecting~~ configured to detect a position of the light beam deflected by said movable mirror, the beam detection part being provided outside the scanned region of each of the optical scanning modules,

wherein the light beam is turned within a region detectable by said beam detection part so as to perform scanning in the first and second opposite directions.



Claim 90 (Original): The optical scanning device as claimed in claim 83, wherein the optical scanning modules are arranged so that the scanned regions of each adjacent two of the optical scanning modules are apart from each other by one scanning pitch in a secondary scanning direction; and

timing phases of the driving voltages applied to the movable mirror driving parts of the optical scanning modules coincide substantially.

Claim 91 (Currently Amended): The optical scanning device as claimed in claim 83, further comprising a pair of buffer parts configured to alternate ~~alternating~~ in temporarily storing the image data so that each of the buffer parts is configured to store ~~stores~~ image data for every other scanning line,

wherein the light beam emitted from said light-emission source is deflected by said movable mirror so as to scan the scanned region in the first and second opposite directions; and the image data is read out alternately from the paired buffer parts in first and second respective orders reverse to each other based on timing of the driving voltages applied to said movable mirror driving part.

Claim 92-130 (Canceled).